

Attachment OPS to the
Memorandum of Understanding (LIGO-M 000125 -00-M)
between the
Carleton College Relativity Group (CCRG)
and the
Laser Interferometer Gravitational Wave Observatory (LIGO)
August 15, 2006

This Attachment OPS to the Memorandum of Understanding LIGO-M 000125 -00-M defines the role of the **Carleton College Relativity Group** as a Member of the LIGO Scientific Collaboration (LSC) in the areas of detector commissioning, detector characterization, and operations support in the initial LIGO interferometers. The period of performance for the activities in this Attachment is from August 15, 2006 to August 15, 2007.

1. Together, the LIGO Laboratory and the LIGO Scientific Collaboration (LSC) are responsible for implementing and exploiting the initial LIGO detector through its science data runs. LSC groups are encouraged to contribute to the commissioning, characterization, and operation of the LIGO detectors, as members of working groups established by the LIGO Laboratory and the LSC.
2. During the period August 15, 2006 to August 15, 2007, the members of **CCRG** will participate in the initial LIGO detector research program in the following areas:

b) Detector Characterization

Detector Characterization Group –

The CCRG will calculate the coherence between the LIGO interferometers' output, and PEMs. This work will be coordinated through the LSC Detector Characterization Group. The CCRG will attempt to identify and determine the cause of noise lines in the LIGO data.

Glitch Working Group – The CCRG will conduct research on identifying and characterizing glitches that appear in the LIGO interferometer output data. Specific attention will be given to identifying the cause of events that appear as triggers in the the LSC binary inspiral search pipeline. Inspiral vetoes will be developed. This work will be coordinated with both the LSC Glitch Working Group, and the LSC Inspiral Group.

The CCRG will also continue to work on the development of a generic glitch finding algorithm, currently called graph tool. This tool will be applied to interferometer and PEM channels at times coincident with events in the interferometers' gravity wave channel.

d) Other Contributions

Not Applicable

3. Resource Sharing: The LIGO Laboratory will contribute resources including allocation of appropriate scientific and engineering personnel, research facilities and funding in support of the effort in Item No. 2, as indicated below.
 - a) Research accommodations for **CCRG** group members while on LIGO research assignment at any LIGO Laboratory site,
 - b) Access to LIGO data through established LSC channels in support of this work.
 - c) Not Applicable

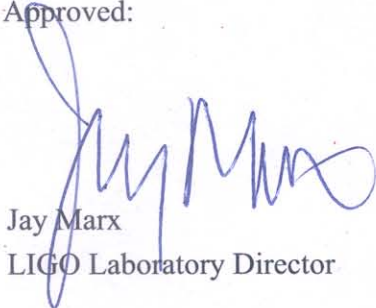
4. Coordination and Reporting -

CCRG will perform this research within the structures established by the LIGO Laboratory and the LSC where appropriate. In particular activities described in Item 2a) will be carried out in coordination with the LIGO Laboratory Commissioning Leader, Item 2b) will be carried out within the Detector Characterization Working Group of the LSC, and Item 2c) will be carried out in coordination with the LHO {or LLO} Site Head. Coordination will include keeping the Group leaders informed of activities and plans, reporting to the group at meetings and telecons, and through technical documents submitted to the LIGO Document Control Center.

In addition, an annual report will be submitted with the update to this Attachment, giving a summary status on research by topic as indicated in Item No. 2, including progress against the milestones if any, significant accomplishments such as new insights/discoveries or publications, issues of concern if any, and an indication of invested time. This Attachment will be updated at least annually with a plan of activities for the succeeding on-year period. These documents will be due one month before the close of the period of performance under this Attachment.

5. All computer code delivered to the LSC under this Attachment must be developed in consultation with the LSC Data Analysis Software Working Group (DASWG) and archived, documented and reviewed as determined by that group.

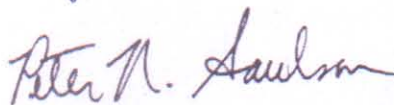
Approved:



Jay Marx
LIGO Laboratory Director



Nelson Christensen
Principal Investigator
Carleton College Relativity Group



Peter Saulson
LSC Spokesperson